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ABSTRACT

To develop a client-centered information system to support the adoption of innovative instructional practices in Kansas classrooms, a pilot project was organized in 12 districts. Among the objectives were: to establish instructional linkages in a wide range of subject areas; to establish a system that would be generalizable to the rest of Kansas and other states in the Six Midwestern State Consortium; to assist pilot region schools to identify information needs; and to influence educators for more widespread adoption of new educational practices. The first 18 months' interim report describes progress in meeting these objectives and points out specific future needs, especially in the districts' complete utilization of information. The role of the field agent is described as critical. Recommendations by the project director and staff are included. Appendixes include the information request and client evaluation forms. (SK)

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ED103019

AN INTERIM REPORT ON A PROGRAM TO ESTABLISH A COMPREHENSIVE EDUCATIONAL INFORMATION SYSTEM IN THE STATE OF KANSAS

Under The Provisions Of Federal Legislation
Governing The Continuation Of
A State Information Dissemination Linkage Project
(National Institute Of Education)

Title: Kansas/Project Communicate:
A Program For The Development
Of A Comprehensive State
Education Information System

Submitted By: Dr. Richard Herlig, Director
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120 East 10th Street
Topeka, Kansas 66612

Program Period Reported: December 1, 1971 - June 30, 1973

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TABLE OF CONTENTS

	Page(s)
ABSTRACT	iii Not included
LIST OF TABLES	iv
LIST OF FIGURES	v
SECTION I: KANSAS/PROJECT COMMUNICATE: A SUMMARY OF ORIGINAL PURPOSES	1
Objectives and Stated Limitations in the Original Project Design	1
Addendum to the Original Application (#) BR No. 1-0650)	2
SECTION II: ORGANIZATIONAL OVERVIEW	4
Project Communicate Staffing Patterns	4
Project Director	4
Field Agents	4
Information Writer	5
Information Specialist	5
Clerk-Stenographer	6
Information Center Organizational Chart	7
Technical Processing Procedures	8
Information Services Currently Available	8
SECTION III: METHODS OF LINKING	13
Establishment of a Pilot Service Area	13
Range of Services to Client and Client-Groups	16
SECTION IV: EVALUATION OF PROJECT ACTIVITIES, December 1, 1971 - June 30, 1973	18
Basic Evaluation Scheme	18
Developmental Evaluation	18
---Complexity of Information Request	23
---Persuasion Index	23
---Adoption	24
---Utilization Index	24
Operational Evaluation	25

TABLE OF CONTENTS (cont.)

	Page(s)
SECTION V: ANALYSIS OF EVALUATION DATA AND FINDINGS.....	26
Developmental Evaluation Data	26
---Complexity of Information Request.....	26
---Persuasion Index.....	28
---Adoption.....	28
---Utilization Index.....	30
Operational Evaluation Data.....	32
---Report of Search and Retrieval Services to Client and Client Groups.....	32
--- Client Rankings of Services.....	35
---Subjective Evaluation of Services by Director and Staff.....	40
SECTION VI: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS, (December 1, 1971 - June 30, 1973)	48
Brief Summary of Project Goals and Activities	48
Conclusions Drawn from Evaluation Data.....	50
Recommendations of Project Director and Staff.....	52
APPENDICES	55
A. Information Request and Client Evaluation Form: Actual Work Copy	57

LIST OF TABLES

Table		Page(s)
1.	Information Requests by Month and Client Category	11
2.	Follow-up Activities by Month and Service Provided, Sept., 1972 - April, 1973	12
3.	Level I - IV (Pilot Region): Reported by District Designation and Location	14
4.	Complexity of Information Requests	26
5.	Persuasion Index Scores	28
6.	Client or Client-Group Adoption Scale	30
7.	Information Utilization Index Scores	32
8.	Statistical Report on Information Services	34
9.	Client Searches Provided and Evaluations Received	36
10.	Client Rankings of Project Information Services	39

LIST OF FIGURES

Figure		Page(s)
1.	Information Center Organizational Chart	7
2.	Information System Flow Chart	9
3.	Information System "Process" Procedures	10
4.	Percentile Ranks for the Complexity Variable	27
5.	Percentile Ranks for the Persuasion Index	29
6.	Percentile Ranks for the Adoption Variable	31
7.	Percentile Ranks for the Utilization Index	33
8.	Searches Negotiated by Month and Client District	38

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I. KANSAS/PROJECT COMMUNICATE: A SUMMARY OF ORIGINAL PURPOSES

Project Communicate was part of a regional effort to establish a comprehensive educational information system that would support the adoption of innovative instructional practices in Kansas classrooms. The project was to function within a pilot region whose characteristics would be generalizable to comparable districts elsewhere in Kansas, and to other regions comprising the Six Midwestern States Consortium (Missouri, Nebraska, Iowa, North Dakota, South Dakota, and Kansas). The objectives established for Project Communicate embraced the following operational processes:

1. To establish linkages necessary to promote the adoption of innovative instructional practices;
2. To direct the proposed information system to a pilot region within the state of Kansas so that it will (a) provide for the adoption of innovative instructional practices as specified in objective one, (b) be generalizable to other regions in the state of Kansas, and (c) be generalizable to members of the Six Midwestern States Consortium;
3. To effect a significant change in the identification of educational needs within pilot region schools;
4. To influence attitudes among educators within the pilot region (fourteen school districts) for more widespread adoption of new educational practices.

A. Stated Limitations in the Original Project Design

(1) Emphasis was to be placed upon the development of a demonstration information system rather than on the establishment of a multi-state system or the reconversion of existing state information components to system operations.

(2) The Kansas State Department of Education would develop the proposed information system for use in fourteen pilot districts, with necessary linkages to local classroom personnel;

(3) Project Communicate staff would identify and then service specified need(s) areas within the pilot region. Those need areas would be limited to maximize project efficiency and resources.

(4) Project activities would be directed to a selected audience who would be links to effective change within pilot region districts.

(5) Project Communicate was to be viewed as developmental in nature, and was not to be construed as a research effort. That is, its objectives were operational in scope, and sought to provide direction when field implementation began.

(6) The project was to focus upon instructional information. Information, as described in the original proposal, referred to descriptions of successful operating programs and research-based, validated instructional materials and systems, as well as research knowledge and results of evaluation studies.

(7) The information system developed for Kansas was not to serve as an organizational clearinghouse for state-wide dissemination, but was to strive for the establishment of the linkages required to accomplish a diffusion of innovative instructional practices in classrooms.

(8) All linkages in the Kansas information system were conceived as being tentative (not fully formulated) at the date of original proposal submission.

B. Addendum to Original Application (#1 BR No. 1-0650)

A major operational element influencing total project emphasis was an addendum to the original proposal application, directing the Kansas

State Department of Education (KSDE) to establish an educational information system that responded to the operational elements described in the original application, but also directing the State Department to establish and maintain the following services:

(1) To provide field consultant(s) who will solicit and entertain requests for information from administrators, teachers and other personnel involved in the management, planning and operation of schools and classrooms;

(2) To provide individualized information services, covering a wide range of subject areas, to both pilot region schools and SEA personnel. Dissemination of that information was to be governed by user-need profiles established by project staff. After information was returned from the information processing unit, the assigned field agent was to screen the material and assist the client in its interpretation and utilization.

(3) To recommend pertinent information to client and client-groups in the pilot region and to schedule follow-up meetings that would assist them in obtaining desired basic documents, and in arranging for consultative and developmental assistance at the trial or adoption stages;

(4) To establish and maintain centralized information processing units in the state education agency (SEA). The processing unit would routinely conduct individualized searches of ERIC and CIJE computer tapes for document numbers and abstracts for clients and field agents;

(5) To establish one operational pilot region with a supporting field consultant during the first twelve months of service, with a second field agent to be added during the last six months of project activity.

II. ORGANIZATIONAL OVERVIEW

A. Project Communicate Staffing Patterns

(1) Project Director

The director coordinates the full range of information services provided within the pilot region. He supervised total system development within the first eighteen months of project operation. The latter responsibility included the training of project staff and the establishment of linkages to leadership personnel in the fourteen districts comprising the pilot region. The director continues to provide major consultative service to educational agencies serviced by the project, and assumes, complete responsibility for the evaluation of all project components.

(2) Education Specialists--Field Agents

Field agents were responsible for the following tasks:

--consultation with clients requesting information and servicing all follow-up requests in a systematic manner;

--reporting to director and supporting staff regarding the disposition of information requests within the pilot region;

--maintaining sufficient liaison with clients, through visitation and consultation, to insure the partial or complete adoption of innovative practices;

--preparing requests for information and relaying such requests to the processing center;

--maintaining user-profiles and reporting all summative data to the director and affected leadership personnel in each district;

--assisting in the planning and implementation of professional development (inservice) activities for information system users;

--supporting the service efforts of the director in the pilot region;

--assisting in the preparation of written materials, bulletins, brochures, guidelines and other reports related to the general dissemination functions of the project;

--serving as a resource person to KSDE personnel and other agencies outside the pilot region;

(3) Information Writer- -

The information writer is responsible for the following specified tasks:

--reviewing, analyzing and/or synthesizing information appropriate to the technical needs of the project's processing unit. The writer works with the referral unit in conducting alternative search strategies, editing abstracts, indexing unsystematized materials, and in the summarization of findings and conclusions from field agents and other referral specialists;

--utilizing current training materials and developing additional materials as required for the conduct of user-education programs;

--abstracting and indexing documents, including research and resource materials, relevant to the needs of Kansas schools following the guidelines established for the ERIC system;

--coordinating and editing the style and format of all project publications;

--writing descriptive reports and other informative papers suitable for general dissemination;

--performing other related tasks as deemed appropriate by the director.

(4) Information Specialist (1) - -

The information specialist is responsible for the following specific

tasks:

--collecting and organizing educational resource materials within the project and making those materials suitable for retrieval by project staff and clients;

--writing logic for computer searches and screening ERIC abstracts for relevancy to client needs and feed-back to improve logic;

--maintaining the SEA library;

--selecting and ordering materials required for information center operations;

--supervising secretarial and clerical work related to the processing and packaging of user requests for information;

(5) Clerk-Stenographer (2) - -

Clerk-stenographers are responsible for the following tasks:

--typing letters, formal reports, information requests as required by director and staff;

--filing incoming and outgoing correspondence, as well as microfiche, forms, index cards, pamphlets, and other information center materials;

--maintaining records on microfiche received by the information center, and producing hard copy from the microfiche reader/printer;

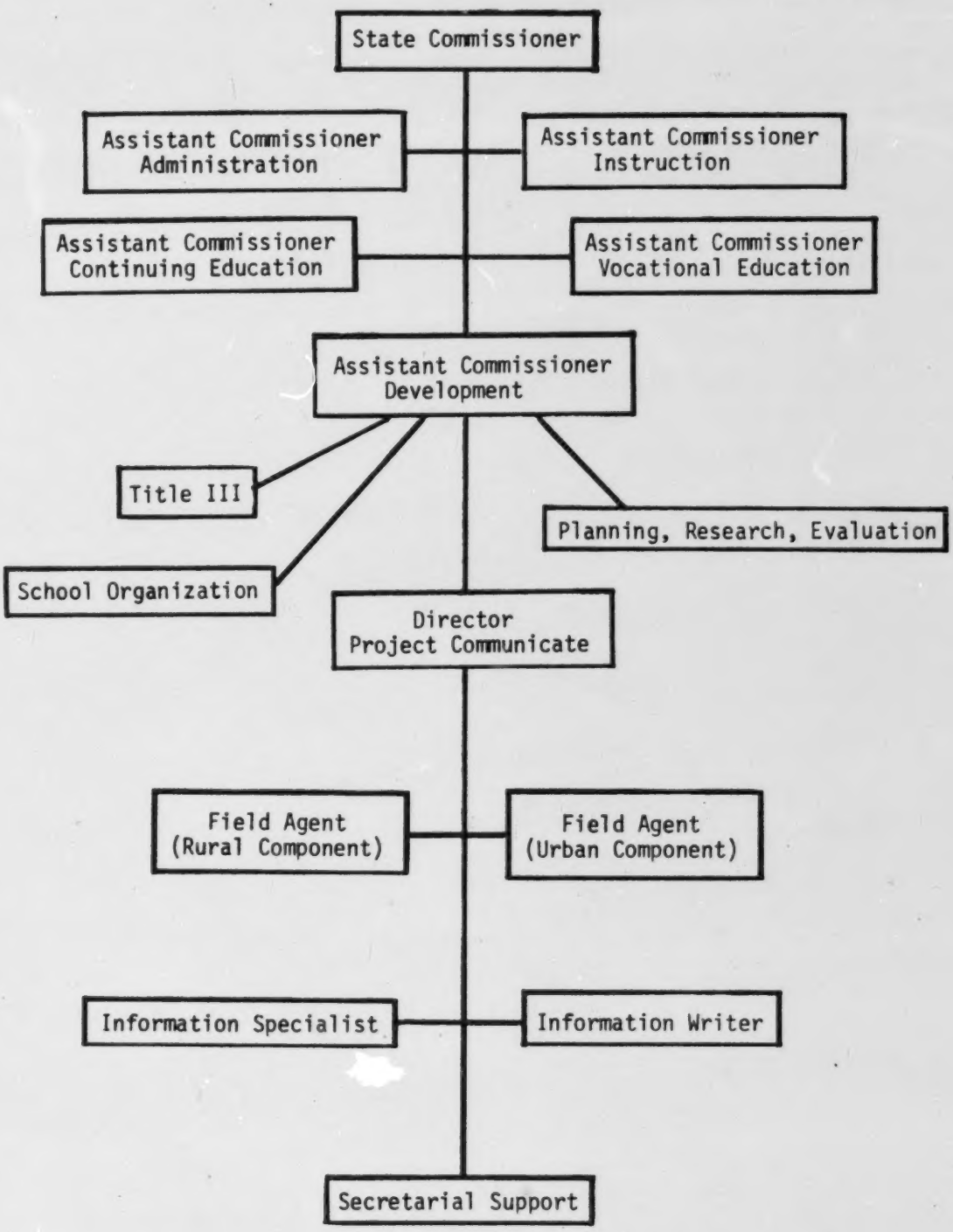
--keypunching computer logic for ERIC searches;

--receiving incoming microfiche, posting data for monthly tabulation, utilizing reader/printer to scan, select and print appropriate pages for clients;

--sorting a large volume of computer printouts of actual ERIC abstracts, checking file information for correctness of order, posting varied information and refiling.

B. INFORMATION CENTER ORGANIZATIONAL CHART

Figure 1.



C. Technical Processing Procedures (Information storage, retrieval and dissemination)

The technical (production) aspects of project activity have evolved into a highly functional service for clients. As might be expected, the initial task of the director was to establish appropriate staff roles and to train qualified people to fill those roles. Most staff were inexperienced in information systems work when first employed; nevertheless, they quickly familiarized themselves with the various hardware and software components of the Kansas system. Figure 2 (page 9) describes the information system that emerged early in project activity. A description of each process step is provided on page 10.

Project Communicate has computer access to ERIC and CIJE files. It presently utilizes the North Dakota computer search program which searches the descriptor listings posted by LEASCO. That computer package needed little revision in terms of the information system needs identified for Kansas. Initially, the information center had some difficulty getting computer logic punched, since the project did not have access to SEA key punch operators during peak load periods. That problem was remedied by the acquisition of additional hardware, and an official reprioritization of SEA user time which improved the project's service capabilities. At the present time, the project can service the typical range of information requests coming from clients.

D. Information Services Currently Available

Many of the early difficulties in providing requested materials have been overcome by the acquisition of additional hardware and software components. For example, project access to its own ERIC collection and the availability of a microfiche reproducer at the information center has

Figure 2

INFORMATION SYSTEM FLOW CHART
KANSAS/PROJECT COMMUNICATE

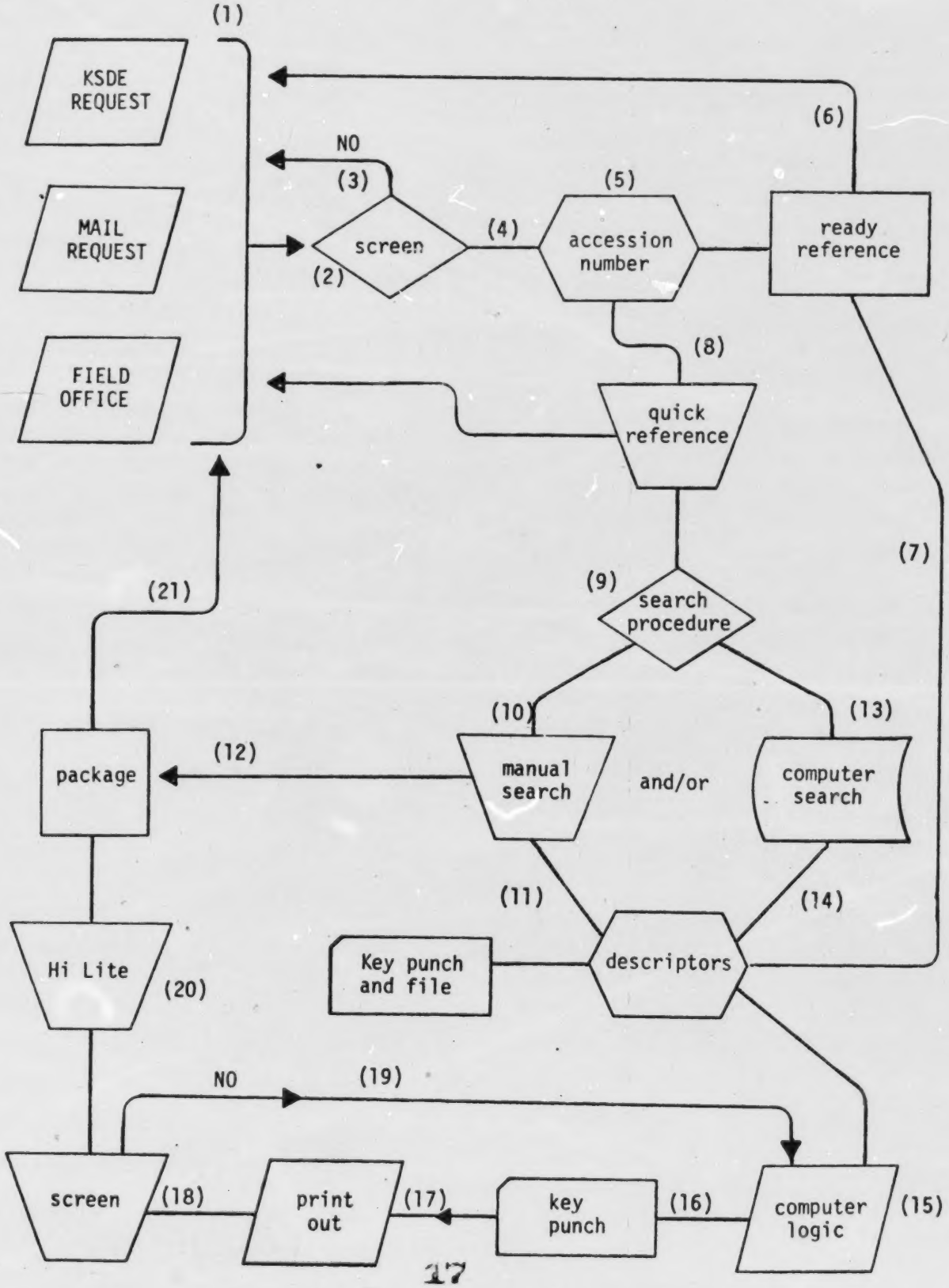


Figure 3.

INFORMATION SYSTEM "PROCESS" PROCEDURES
KANSAS/PROJECT COMMUNICATE

(1) Requests originate from KSDE staff, from Level I or Level II Schools by mail (Form 50-06-101), or from field agent (Form 50-06-100) Appendix B.

(2) Project director screens request.

(3) If an ambiguity or other discrepancy exists, the client is contacted.

(4) Information is typed on form 50-06-100 (field office sends form 50-06-100 completed) 4-part NCR.

(5) 720000 series number is stamped on form 50-06-100, Log Sheet, working envelope and 3 x 5 card.

(6) If possible the request is filled by Ready Reference.

(7) Descriptors - key punch - file - IBM card and form 50-06-100.

(8) Quick reference - an interest retaining technique for searches that cannot be filled by Ready Reference.

(9) Search procedure is determined.

(10) Manual Search - CIJE - Ed. Index - in-house material - special material.

(11) Descriptors - key punch - file - IBM card and form 50-06-100.

(12) Material is packaged and sent to client or field office.

(13) Computer search.

(14) Descriptors - key punch - file IBM card and form 50-06-100.

(15) Search logic is written.

(16) Key punch logic.

(17) Print-out from computer.

(18) Print-out is screened.

(19) If no -- rewrite logic.

(20) Hi-lite abstracts to help client and to give feedback to logic writer.

(21) Print-out is packaged with order form (50-06-102) and returned to client. Form 50-06-100 is enclosed with field office package.

improved its turn-around time. Similarly, the ability of project staff to conduct their own computer search of RIE and CIJE has resulted in more efficient searches.

During the month of October, 1973, Project Communicate negotiated, wrote logic for, key punched, searched, printed, screened, highlighted and delivered 305 requests. Table 1. illustrates the volume of requests from September, 1972 through April, 1973.

Table 1.

INFORMATION REQUESTS
BY MONTH AND CLIENT CATEGORY
SEPTEMBER 1972 - APRIL 1973
KANSAS/PROJECT COMMUNICATE

Client Category	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Total
Teachers	90	209	66	56	66	54	53	14	608
Administrators	24	59	23	14	31	13	15	3	182
SEA Staff	20	10	10	6	12	7	10	4	79
Other	3	15	14	4	12	15	8	6	77
Totals	137	293	113	80	121	89	86	27	946

An equally important measure of information utilization is the follow-up and technical assistance to clients. Table 2. shows, in quantitive terms, the variety of services provided. Additional supporting data of a "qualitative" nature are reported in the evaluation section of this proposal.

Table 2.

FOLLOW-UP ACTIVITIES
BY MONTH AND SERVICE PROVIDED
SEPTEMBER 1972 - APRIL 1973
KANSAS/PROJECT COMMUNICATE

Project Service	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Total
Searches Delivered	142	197	195	121	80	109	182	51	1077
Documents Delivered	[illegible]	423	249	182	483	135	346	595	2598
Articles Supplied	0	73	40	80	71	20	118	207	609
Other Technical Assistance	27	52	257	42	103	450	70	6	1007
Significant Contacts	16	24	18	8	15	11	5	3	100
Totals	370	769	759	433	752	725	721	862	5391

III. METHODS OF LINKING

A. Establishment of a Pilot Service Area

Project Communicate began its operations on December 1, 1971 with the employment of a full-time director. His initial task was to establish a service area (pilot region) that embraced school systems of various sizes and at different levels of information saturation. Three school districts were identified for each of four levels, one district at each level having a comparable number of attendance centers, professional and non-professional staff, and students. One large urban district (Kansas City, Kansas) was added in September, 1972. Table 3. shows the districts comprising each level of information saturation.

Level IV Districts

Each district received total information saturation. The full-time field agent utilized retrieved information in two ways: (1) to provide a viable information base for client decision making; (2) to legitimate the potential for innovation in schools and classrooms through client utilization of improved information resources. The agent actively solicited information requests in these districts, and attempted to isolate those personnel most likely to use acquired information to improve the educational process.

The agent's conceptualized "catalytic" role required his entry into these districts with a formal presentation to faculty at each attendance center. A slide presentation described the project's capacity to retrieve educational information upon request for individual users. The agent also entertained questions from his audiences and distributed descriptive brochures for their perusal.

Table 3.

LEVELS I - IV (PILOT REGION)
REPORTED BY
DISTRICT DESIGNATION AND LOCATION
KANSAS/PROJECT COMMUNICATE

Category		Student Enrollment Elem.	Sec.	Staff
Level I				
USD #422	Greensburg	177	287	43
USD #254	Barber County	670	363	75
USD #407	Russell	887	1,124	144
Level II				
USD #338	Valley Falls	391	173	41
USD #469	Lansing	735	369	58
USD #207	Ft. Leavenworth	2,277	387	128
Level III				
USD #372	Silver Lake	399	167	35
USD #321	St. Mary's	870	351	74
USD #450	Tecumseh	1,439	1,195	142
Level IV				
USD #342	McLouth	372	169	37
USD #464	Tonganoxie	827	432	66
USD #204	Bonner Springs	1,268	1,149	122
Additional Units				
USD #500	Kansas City	17,402	15,381	1,309
USD #348	Baldwin City	669	287	57

Level III Districts

The field agent at this level attempted to provide the same services as in Level IV. However, this role is designed as a part-time role or an "added-on" responsibility. In many situations Level III field agent activities were given a lower priority.

Level II Districts

No field agent was assigned to these districts. A project staff member presented the slide/tape show to district personnel and explained the project's objectives. Brochures were also made available to interested staff. After this initial exposure, prospective users could forward any request to the SEA by mail.

Level I Districts

Attendance centers in those districts did not have the services of a field agent or any direct contact with project staff. Their personnel received the brochure which provided basic information about project services.

Urban Component (Kansas City, Kansas) - -

The field agent serving this school district was housed in the central office, with direct access to curriculum heads and supervisors with system-wide responsibility. After the agent's initial media presentation to those staff, he started receiving numerous requests for information services. To initiate project entry at the building level, formal presentations were made at separate secondary and elementary principals' meetings. With their cooperation, and using curriculum directors and supervisory staff as communication linkers, formal presentations were made at selected attendance centers. In addition to building-level presentations, information about project services was disseminated district-wide via inservice

meetings, district publications (staff news bulletins), radio interviews, and local newspaper coverage. As staff at all levels became familiar with the project's potential for direct and individualized information services, it was essential in a district of this size to consider the potential of school librarians as the liaison between client and client-groups and the field agent. In fact, the sheer logistics of project operation in Kansas City meant that some limitations had to be placed on individual services. Field agent involvement with "groups" sharing common information needs has proved more productive.

B. Range of Services Provided to Client and Client-Groups

The operational design that emerged early in project activity placed two field agents in extension offices at Lawrence and Kansas City, Kansas. The director was housed at the KSDE building at Topeka, Kansas. The field agents continue to provide sustained support to five (5) of the fourteen (14) pilot school districts. The director serves as a part-time field consultant to three (3) districts. Six districts (Levels I-II) request and receive information by mail.

As mentioned earlier, the amount of information service and staff support provided districts varies in accordance with predetermined levels of saturation (i.e., Levels IV-I). In all cases, school personnel have received a descriptive brochure entitled, "There Must Be A Better Way... ....To Educate Our Youth." The basic philosophy of the Kansas information retrieval system is described in the brochure. By intent, that communication vehicle did not imply that Kansas school personnel were behind the times, nor was it inferred that they were beset by problems that could not be resolved without project assistance. The brochure simply states that useful educational information can be retrieved

through use of the project's services. The brochure has been an invaluable tool in establishing direct communication with a broad range of client and client-groups. It can be used as a hand-out at inservice sessions, and as a stamped, self-addressed mailer by individuals requesting additional information.

An initial dissemination hurdle was familiarizing clients with the use of microfiche as a means of reading information. That obstacle has been partially resolved as more affected districts acquire their own microfiche readers. The project has ten readers available on a short-term loan basis. As a rule, the project furnishes users with 2 or 3 pages of hard copy, generally descriptive of the requested item, and attaches a complete microfiche. This approach hopefully encourages the client to find a microfiche reader and then study the entire document. Obviously, the large cost differential between microfiche and hard copy has been a central concern in the project's effort to promote microfiche utilization.

By October, 1972, a print-out of the project's first 500 searches had identified the most popular information requests. With that data, staff generated computer searches in each specialty area. Each topic was screened, cataloged and xeroxed for "on-shelf" distribution. Updating of those documents has been conducted quarterly. October, 1972, also saw the project reach its one thousandth individual request for information services. By that time, staff had the hardware and software capacity to conduct computerized searches of the RIE and CIJE files of ERIC, as well as manual searches of SEA and state library materials. Numerous client requests have been received by director and field agents to provide follow-up support after the receipt of requested materials. In fact, more staff time is currently being expended on follow-up activities with

clients. That staff utilization pattern is emerging in both the rural and urban components, as well as among users employed by the KSDE.

The first eighteen months of activity also saw the project develop three in-house publications directed to educational issues of major state-wide interest. Information about The Extended School Year manuscript was disseminated via the SEA bi-weekly newsletter. The availability of Open Education was reported in the KSDE News-Notes, in Action, a Kansas NEA publication, in Et Cetera, a house organ of the KSDE, and in the Kansas Teacher, the periodical of the Kansas State Teachers Association. More than 750 copies of that publication have been mailed to Kansas educators. The third publication, The Mini-Course: A Promising Technique was mass mailed to selected educators throughout the state. The positive state-wide receptivity to each of these documents has been a source of protessional gratification to the entire staff.

IV. EVALUATION OF PROJECT ACTIVITIES, (December 1, 1971 - June 30, 1973)

Basic Evaluation Scheme

Evaluation of Kansas/Project Communicate was to be performed in accordance with the project's developmental and operational functions. Developmental evaluation would determine when all goal components had truly become functional, and operational evaluation would be performed to assess the effectiveness of the project's operational (search and retrieval) components.

Developmental Evaluation (A Measure of Project Goal Attainment)

The objectives specified in the initial proposal presentation emphasized

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the establishment of information linkages that would promote the adoption of innovative instructional practices in Kansas classrooms. A linkage was defined as the interaction between individuals and systems wherein the roles of conveyor, consultant (field agent), trainer, innovator, knowledge builder, practitioner, and user are identified. As an independent variable, a linkage serves as the key factor in the adoption and diffusion of educational innovations.

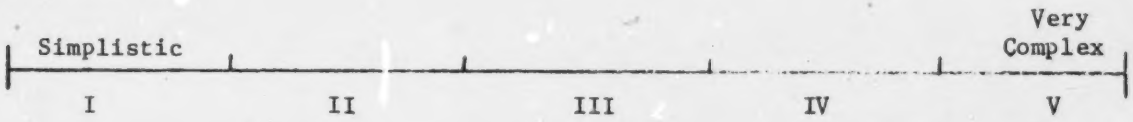
The purpose of the information system was to create information linkages that would facilitate classroom change. If the linkages established for Kansas/Project Communicate were the right ones, they had to be sequentially ordered from initial client request to the adoption of a new instructional practice. Rogers[1] "social systems" model describing the sequential steps in the adoptive process led to the development of the project's own Persuasion and Utilization Indices (developmental evaluation.)

It should be noted that the director interpreted the project's function as that of a field-based service unit for Kansas schools. Since many of its information services fell into areas that deal with complex educational and social phenomena, there had to be some acceptance of the fact that any formal evaluation of noncomparable, unrelated information services would, in itself, be of limited value in future program development. A necessary correction factor has to be the establishment of generalized criterion guidelines which could objectively and non-technically measure the impact of a total range of project services on

[1]Rogers, E.M. Diffusion of Innovations. New York. The Free Press, 1962, pp. 81-6.

pilot region schools. The indices developed attempted to systematically measure client use of retrieved information, using three discreet variables, and combining those variables to ascertain total project impact on clients and client-groups. The indices view receptivity to change as being controlled by (1) the relative complexity of the idea; (2) the degree of innovativeness displayed by the client or client-group; and, (3) the degree of individual variability in the adoption process.

Complexity



The continuum shown above suggests that a client's information request can be rather simplistic or, conversely, very complex in organizational and instructional redirections. Variations in complexity are described as follows:

I. -- Changes in schools or classrooms that do not require major modifications in resource allocation or staff utilization (e.g., adoption of a new text, utilization of supplementary classroom material);

II. -- Changes in staff function but no changes in resource allocation (e.g., adoption of new curriculum, mini-courses, some individualized aspects of teacher accountability);

III. -- Changes in resource allocation but not staff function or a major change in attitudes (e.g., computer-assisted instruction, open education);

IV. -- Adoption of New Methods and Materials (e.g., the adoption of a K-12 career education program, computer math, or behavioral (affective) analysis strategies);

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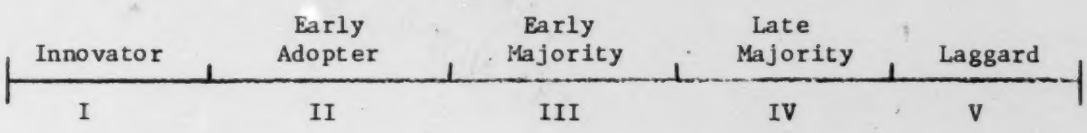
V. -- Formalized changes in traditional role relationships between the school and outside supporting agencies (e.g., collaboratively-developed career education programs involving local employers).

Project evaluation was conceptualized as calling for a measure of the complexity of information requested by client and client-groups. Data descriptive of that measure are reported (see Section V) in both tabular and chart form. The evaluation data on each district in the pilot region are "pooled" according to their predetermined placement in the four levels of information saturation (I - IV, urban). Percentiles are used to report a range of complexity (0.5 - 5.5) for each saturation level.

Innovativeness (Client or client-group)



The innovativeness continuum recognizes that client utilization of educational information turns so much on the institutional and professional press he must respond to. For example, the fashionability of change and innovation can be influenced by environmental circumstances, intellectual awareness, motivational factors, and the career plans of the client. The field agent was thus required to make some independent judgments about client receptivity to innovation. The adopter categories (Rogers, 1962) utilized are described as follows:

I. -- Innovator: Willing to accept risks; young and of higher social status; current in the utilization of scholarly material; extensive professional interaction with other innovative types;

II.-- Early Adopter: Holds the respect of professional peers and has significant contact with local change agents;

III.-- Early Majority: Willing to consider adoption after colleagues have embraced the change; has considerable professional contact and influence with local change agents and early adopters;

IV.-- Late Majority: "Skeptical" and overly concerned about peer resistance to change; professional associates (cronies) tend to be early- and late- majority types; tends to have limited opinion leadership in professional deliberations;

V. -- Laggards: Tradition-bound and place-bound; professional values are not influenced by "innovative" educational practices.

These assessments of innovativeness[2] were obtained by the LAIN Scale and the subjective judgments of KSDE personnel familiar with those districts. The innovation score was rated along a continuum (range 0.5 - 5.5) in the same manner as the variable of complexity in an attempt to measure the degree of innovativeness displayed by a given client and client-group, as well as a pattern of receptivity to innovation that seemed to hold for some districts rather than others.

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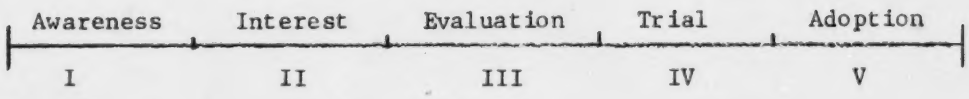
[2] Herlig, Richard. "Identifying Latent Innovation in Education". Unpublished PhD. dissertation, University of Missouri (Columbia), 1971.

Adoption



The third variable comprising the index scale recognizes that the road from initial exposure to instructional adoption embraces a number of behavioral plateaus. The field agent rated the client's perceived behavior along the adoption continuum illustrated above.

I. -- Awareness: Exposure to the innovation but not yet motivated to seek further information; individual's recognition that the innovative idea may respond to a specific classroom or school need;

II. -- Interest: Client becomes interested in the innovative concept and actively solicits additional information; his/her behavior has become purposive;

III. -- Evaluation: Client applies the information to his/her present situation (trial stage); reinforcement is needed at this level if the client is to be expected to proceed;

IV. -- Trial: The client applies innovative information on a pilot basis to determine its suitability and usefulness in his/her localized situation.

V. -- Adoption: Client decides to use the innovation after full evaluation and review.

The degree to which client and client-groups actually used acquired information to facilitate institutional and classroom change represents another dimension of developmental evaluation. The scores for individual users were recorded on the project's standard information request and client evaluation form (see Appendix A) by the assigned project staff member. The possible range of scores was 0.5 - 5.5, and are reported (see Section V) by percentile rank for users in both the urban and Levels I - IV districts.

Persuasion Index

It is suggested that two of these variables (complexity and innovativeness) can be combined in an attempt to measure the effort it will take to persuade the client-group to follow through and implement a desired institutional or classroom innovation. The variables of complexity and innovativeness multiplied provide a Persuasion Index (PI = C x I) that ranges from 0.5 - 25.5. A supporting table and chart (Section V) illustrate by percentile ranking the Persuasion Index placement for the Levels I - IV and urban pilot districts.

Utilization Index

It is suggested that all three variables (i.e., complexity, innovativeness, and adoption) can be combined in an attempt to measure the impact of the information and technical assistance provided by project staff on the educational practices in the pilot school districts.

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All three variables multiplied provide a Utilization Index (UI = C x I x A) that ranges from 0.5 - 125.5, Section V reports Utilization Index scores for the Levels I - IV and urban pilot districts. Again, the performance of district users at the various predetermined levels of information saturation is shown by percentile rankings. This Utilization Index should be viewed as a variable measure of information utilization by pilot district personnel.

Operational Evaluation (A Measure of Service Effectiveness)

Evaluation of project services included the collection of data describing the type and frequency of information system inputs and outputs. Emphasis was placed on demonstrated effectiveness rather than on a chronological review of project growth. The director conceived the task of Kansas/Project Communicate as directly supporting change in local classrooms. Accordingly, the hard data reported under Operational Evaluation reflect project success in serving immediate users in the pilot region and the KSDE. The extent to which the project efficiently serviced its clients also lends itself to a subjective evaluation of past role performance by both the director and his supporting staff. Those reflections constitute a generalized reaction to the first eighteen months of project activity.

Some of these same data were subjected to more sophisticated statistical analysis.[3]

[3] Herlig, Richard. The Role of the Educational Extension Agent in Information Utilization. Kansas State Department of Education, 1973.

V. ANALYSIS OF EVALUATION DATA AND FINDINGS

This section contains data descriptive of the pilot region and clients serviced by Kansas/Project Communicate. It includes (1) an analysis of data related to the attainment of project goals; (2) an analysis of data reporting the frequency and type of service outputs to client and client-groups; (3) a report of client rankings of project services; (4) the subjective reactions of Director and staff to the first eighteen months of operational activity.

Developmental Evaluation

Complexity of Information Requests: Table 4 reports the complexity of information requests emanating from pilot region districts.

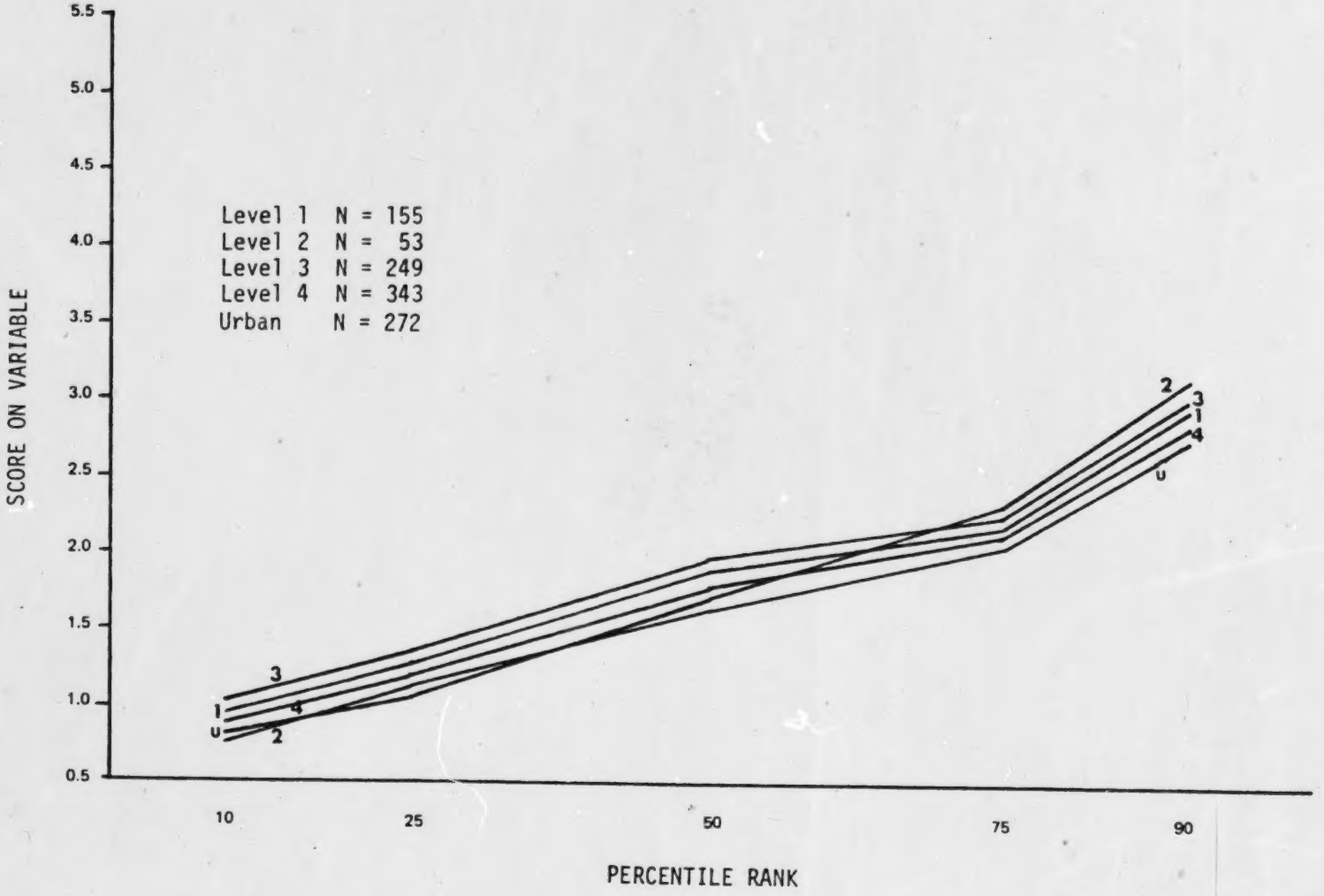
Table 4

COMPLEXITY OF INFORMATION REQUESTS: POSSIBLE RANGE 0.50 - 5.50
KANSAS/PROJECT COMMUNICATE
DECEMBER 1, 1971 - JUNE 30, 1973

Client or Client-Group	N	Percentiles 10	25	50	75	90
Level I	155	.82	1.30	1.85	2.31	2.91
Level II	53	.74	1.10	1.73	2.43	3.17
Level III	249	.86	1.41	1.89	2.33	2.89
Level IV	343	.80	1.25	1.80	2.26	2.69
Urban	272	.70	1.01	1.52	2.18	2.74

The data suggest some difference between groups; however, the range of difference in complexity of information requested is about the same for clients at each saturation level. Figure 4 (page 27) illustrates those comparisons in graphic form.

Figure 4
PERCENTILE RANKS
FOR THE COMPLEXITY VARIABLE
KANSAS/PROJECT COMMUNICATE



Persuasion Index: Table 5 shows pilot school districts differing when that variable is independently assessed. It should be noted that innovativeness was generally a measure of a district-wide response rather than an individual client response. The Persuasion Index (i.e., Complexity x Innovativeness = Persuasion) suggests that some school leadership personnel will need considerably less prodding than others to use information as a step toward the actual implementation of a classroom or institutional innovation. The extent to which that circumstance is true is graphically illustrated in Figure 5, (page 29).

Table 5

PERSUASION INDEX SCORES: POSSIBLE RANGE 0.50 - 25.5
KANSAS/PROJECT COMMUNICATE
DECEMBER 1, 1971 - JUNE 30, 1973

Client or Client-Group	N	Percentiles 10	25	50	75	90
Level I	155	1.80	2.28	4.84	5.31	7.91
Level II	53	2.57	3.04	6.67	9.08	11.33
Level III	249	2.53	3.66	4.33	7.97	9.97
Level IV	343	2.56	3.76	7.67	8.20	11.87
Urban	272	1.81	2.57	3.42	7.00	8.39

Adoption: Table 6 shows the extent to which clients in the pilot districts utilized the search and retrieval capacity of the project, including field-agent assistance, to put new concepts and understandings into practice. It can be inferred that users whose districts had direct access to field agent assistance ranked higher on the adoption scale (range: 0.50 - 5.50). The data are reported in percentiles.

Figure 5
PERCENTILE RANKS
FOR THE PERSUASION INDEX
KANSAS/PROJECT COMMUNICATE

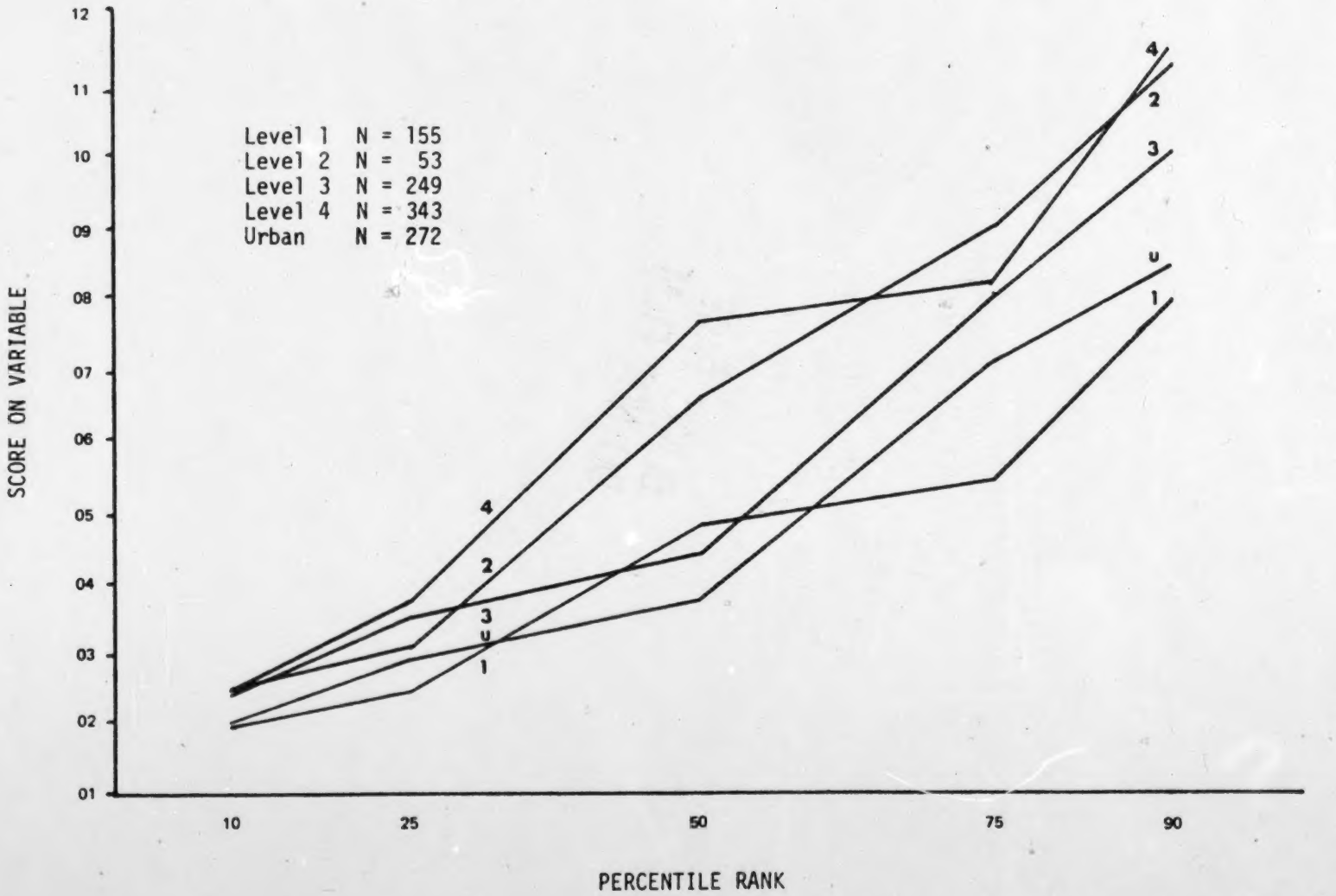


Table 6

CLIENT OR CLIENT GROUP ADOPTION SCALE: POSSIBLE RANGE 0.50 - 5.50
KANSAS/PROJECT COMMUNICATE
DECEMBER 1, 1971 - JUNE 30, 1973

Client or Client-Group	N	Percentiles 10	25	50	75	90
Level I	155	.67	.93	1.37	3.32	5.03
Level II	53	.68	.97	1.44	2.28	3.43
Level III	249	.98	1.91	3.67	4.92	5.26
Level IV	343	.91	1.61	4.52	5.01	5.30
Urban	273	.96	1.95	3.94	4.95	5.28

Figure 6 (see page 31) graphically illustrates the spread between districts with the highest (IV, III) and lowest (II, I) levels of information saturation. It should be remembered that adoption as a variable does not provide the evaluator with a measure of the complexity or innovativeness of the adopted concept or program. The adoption variable does tell us, however, if the information was used to implement or rationally reject a concept.

Information Utilization Index: As described in Section IV, the utilization index is an attempt to measure the impact of acquired information on the pilot district. The utilization formula combines the variables of complexity, innovativeness and adoption in multiplicative fashion to give the evaluator an estimate of client and/or district utilization. Table 7 (page 32) shows districts serviced by field agents (Levels IV, III and Urban) having the highest U.I. rankings.

Figure 6
PERCENTILE RANKS
FOR THE ADOPTION VARIABLE
KANSAS/PROJECT COMMUNICATE

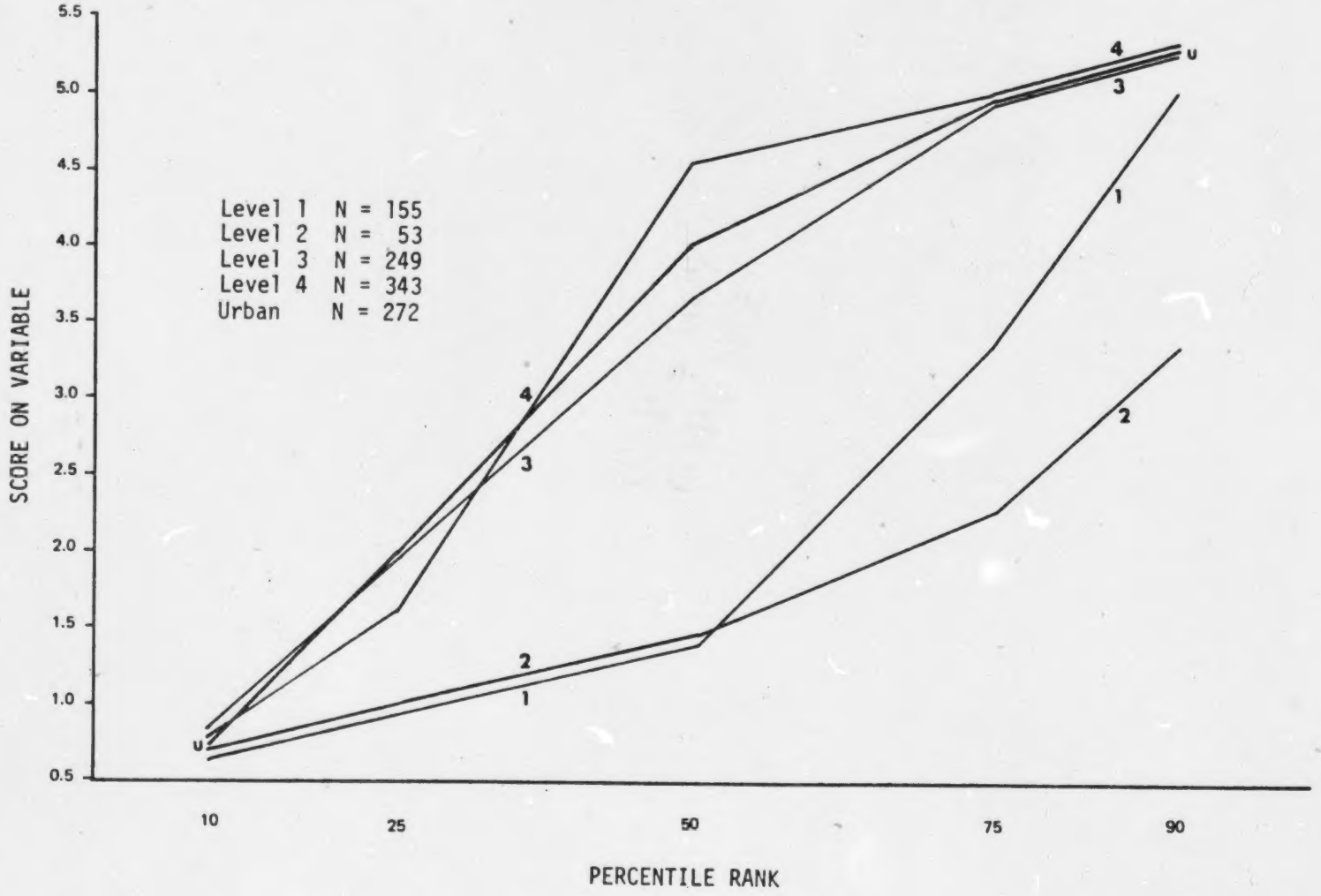


Table 7

INFORMATION UTILIZATION INDEX SCORES: POSSIBLE RANGE 0.50 - 125.50
KANSAS/PROJECT COMMUNICATE
DECEMBER 1, 1971 - JUNE 30, 1973

Client or Client-Group	N	Percentiles 10	25	50	75	90
Level I	155	.93	3.55	4.31	15.75	28.32
Level II	53	2.80	3.58	7.44	15.32	23.42
Level III	249	4.34	8.44	15.33	24.01	40.03
Level IV	343	5.54	7.52	14.37	33.75	38.23
Urban	272	4.03	8.89	14.50	23.02	38.55

Figure 7 (page 33) shows, in more striking terms, the impact of field-agent intervention (Levels IV, III and Urban) on the district's potential for full utilization of acquired information.

Operational Evaluation Data

Project Communicate Services to Kansas Clients: The best introduction to the full range of activities provided by the project is to examine the statistical report of information services described in Table 8 (page 34).

Figure 7
PERCENTILE RANKS
FOR THE UTILIZATION INDEX
KANSAS/PROJECT COMMUNICATE

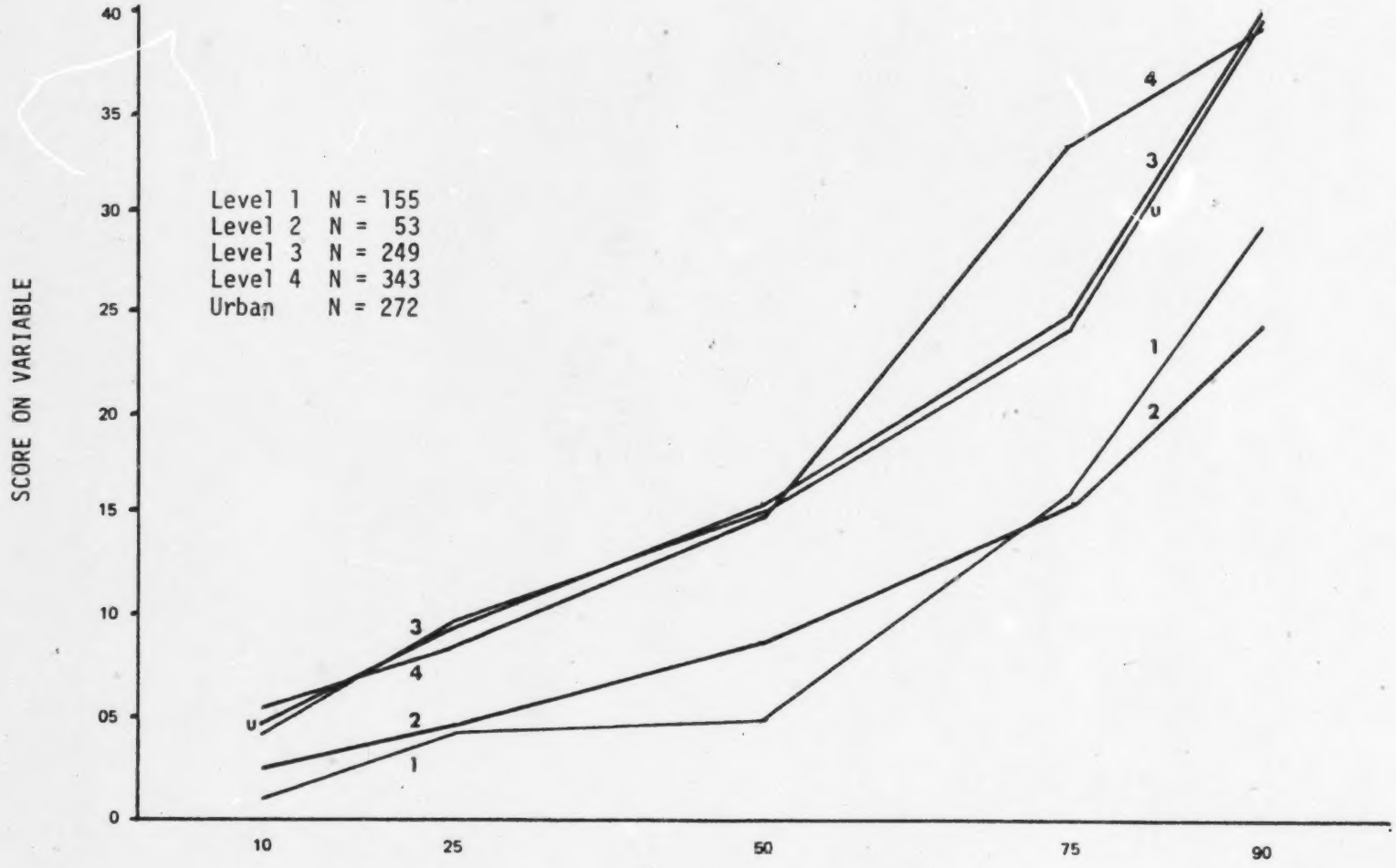


Table 8
STATISTICAL REPORT ON INFORMATION SERVICES
KANSAS/PROJECT COMMUNICATE
DECEMBER 1, 1971 - JUNE 30, 1973

Searches	To Date: Complete	June '73: Complete	Total
Teacher	1,054	1	1,055
Administrator	232	0	232
Board Member	1	0	1
KSDE	186	5	191
Patron	1	0	1
Student	3	0	3
Paraprofessional	0	0	0
Non-Certified	2	0	2
Counselor	33	0	33
Other	114	13	127
TOTALS	1,626	19	1,645
*Computer Searches (RIE)	1,253	23	1,276
*Computer Searches (CIJE)	1,031	23	1,054
Abstracts Printed (RIE)	54,125	908	76,673
Abstracts Printed (CIJE)	20,639	447	23,086
Microfiche titles supplied	5,705	191	5,896
Microfiche reproduced	11,852	384	12,236
Average document pages			109
Hard copy pages supplied	4,793	32	4,825
Journal articles supplied	906	453	1,359
Additional information	981		981
PREPS	700	10	710
Extended School Year	332	11	343
Open Education	843	58	901
The Mini-Course: A Promising Technique	1,961	27	1,988

*Project Communicate search program installed 1 July 72.

The staff views this data as supportive of the efficiency of project services to clients inside and outside the pilot region. Search production averaged 91.4 each month throughout the developmental phase (first eighteen months) of project activity. That figure grew to 108.6 per month during the 1972-73 school year. The field agents quickly found that the generation of client business presented no special problem. Indeed, the problem was trying to limit the number of information requests to manageable size. Figure 8 (page 38) shows a monthly summary of searches negotiated during the developmental phase of project activity.

The balance between information requests from administrator and teacher clients was proportionately in balance. The project had 1,055 teacher requests (64 per cent) and 232 administrator requests (14 per cent). The director and field agents worked extensively with both professional groups. More than 100,000 abstracts of RIE and CIJE documents were produced for all clients during the developmental phase of project activity.

Client and Client-Group Evaluation of Project Services: Formal evaluations of project services were obtained from 75 per cent of requesting clients between January, 1972 and May, 1973. The project utilized a standardized information request and client evaluation form (Appendix A) that was returned by mail or completed on-site in the presence of a staff member. The evaluation form asked respondents to rate the information received for its quality, stating how they or their staff used the information, and make any additional open-ended comments as necessary on the form.

Table 9 (below) shows, by level of saturation (I - IV, Urban), the percentage of possible clients to the actual clients and the percentage of searches conducted to actual evaluations received from users.

Table 9

CLIENT SEARCHES PROVIDED AND EVALUATIONS RECEIVED
(REPORTED IN PERCENTAGES)
KANSAS/PROJECT COMMUNICATE
DECEMBER, 1971 - MAY, 1973

Client or Client-Group	Searches Provided	Possible Clients	Actual Clients	% of Possible to Actual Clients	Evaluations Received	% of Evaluations Received to Searches Provided
Level I	161	202	69	22.50	155	96.30
Level II	63	227	36	18.43	54	85.70
Level III	262	251	134	51.43	249	95.00
Level IV	406	225	146	66.70	343	84.50
Urban	311	1,309	181	13.80	272	87.50
TOTALS	1,203	2,214	566	52.20	1,073	89.80

More than 1,200 personal interviews were conducted in the evaluation of the project's search and retrieval services. Across all saturation levels the project had a high percentage (89.80) of its searches evaluated. Although not reported, the KSDE staff requested 178 searches, the majority for outside clients in the western part of the state. A total of 57.4 per cent of those searches were evaluated. It should be noted that Level II districts were scheduled to have more direct project support than those receiving Level I services. The operational reality, however, was a significant difference in interest, enthusiasm and utilization between Level I and Level II districts. The design of the

original pilot region did not randomly select its districts for inclusion at each level. By necessity, Level II districts had to be in Northeast Kansas to insure they could be serviced by regionally-based agents.

Table 10 (page 39) reports subjective evaluation data emanating from the client request and evaluation form and in-house "tally" sheets. There was little gross difference in client evaluation as dependent upon assignment to the four levels of saturation, to an urban/rural location, or to a given client category. Clients generally rated the information received as: Excellent (20 per cent); Very good (40 per cent); Fair (10 per cent); and, Poor (10 per cent).

The comments section of the evaluation form elicited reactions ranging from: "A very effective method of gathering relevant data," to a disgruntled building principal irked by having to "pay" for information services by completing the evaluation form. As Table 10 shows, the highest percentage of clients applied requested information to classroom activities, to their personal professional development, and to facilitate curriculum revision. Less extensive use was made of information in the other categories. More use was made of information in the Level IV and III districts, a circumstance attributable, in part, to the accessibility of project field-agents.

As noted earlier in this report, some clients had a negative fixation with microfiche material. Others lacked the equipment (readers) essential for its use, and had to creatively improvise in order to read the material. Some information was sent home for parents to use with their gifted children. Clients occasionally used acquired materials in preparation for formal presentations at professional meetings or to develop proposals for federal funding. Others suggested the information's value in helping them evaluate the worth of a proposed program. That is, they may have found it expeditious not to adopt a particular

Figure 8
SEARCHES NEGOTIATED
BY MONTH AND CLIENT DISTRICT
KANSAS/PROJECT COMMUNICATE

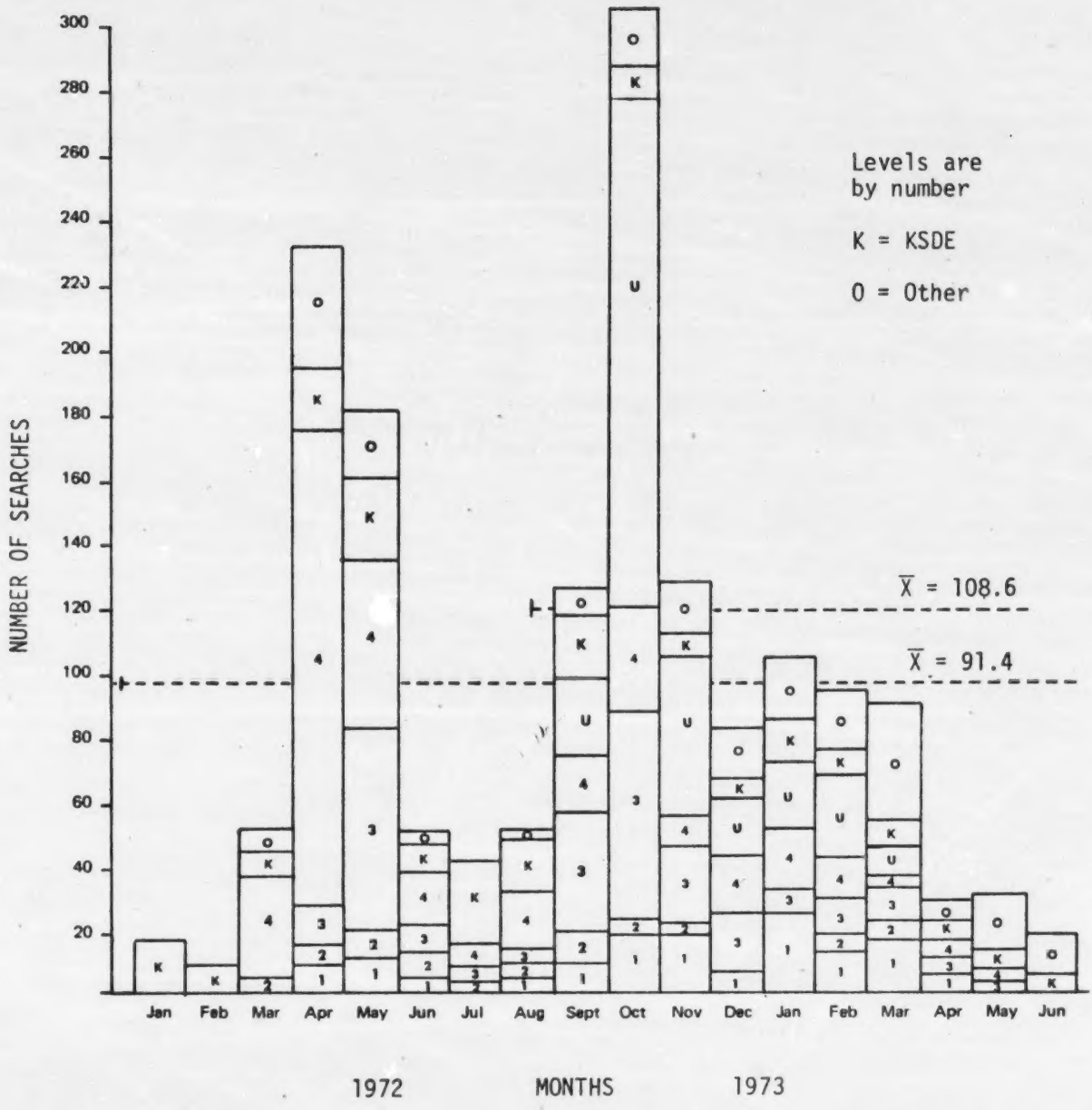


Table 10
CLIENT RANKING OF PROJECT INFORMATION SERVICES
KANSAS/PROJECT COMMUNICATE
DECEMBER 1, 1971 - JUNE 30, 1973

Item 1. (Information Adequacy)	% Excellent	% Good	% Fair	% Poor
Level I	22.4	37.1	23.8	10.5
Level II	21.6	37.3	31.4	7.8
Level III	22.4	38.2	18.0	8.0
Level IV	21.6	35.1	28.2	4.1
Additional Units				
Baldwin City	19.4	14.9	25.4	10.4
Kansas City, KS.	26.3	32.2	24.4	5.5
KSDE	11.6	33.0	33.0	9.1

Item 2. (Information Use By Individuals)	For Classroom Units	For Curriculum Revision	For Adm. Decision Making	For Professional Growth	Other
Level I	75	77	27	39	7
Level II	20	13	7	32	5
Level III	105	101	40	88	16
Level IV	159	98	40	153	13
Additional Units					
Baldwin City	14	19	14	30	5
Kansas City, KS.	130	86	73	126	50
KSDE	11	17	49	9	31
TOTAL(s)	514	411	250	477	127

Item 3. (Time Of Use)	Already Used	In Near Future	In Three Months	Will Not Use
Level I	64	33	2	18
Level II	27	12	0	7
Level III	144	52	20	24
Level IV	197	74	16	31
Additional Units				
Baldwin City	26	15	3	15
Kansas City, KS.	162	108	14	33
KSDE	61	9	8	15
TOTAL(s)	681	303	63	143

new reading and math program. On several occasions, acquired information was actually borrowed by parties unknown and never returned.

The pattern of use across all four saturation levels suggested a positive "ripple effect." Information was shared by the original clients with numerous others (2,053) as shown in Table 10 (page 39).

The actual time of information utilization varied as determined by saturation level and availability of project staff. The staff observed that some clients either did not know how to use the material or were simply unwilling to exercise even minimal initiatives in pursuit of additional options. It would seem, therefore, to be a matter of personal motivation, coupled with a staff capability for persuading clients to go further.

Subjective Evaluation of Services by Project Director and Staff

Kansas/Project Communicate has attempted to evaluate its goal attainment over the first eighteen months of project activity in as objective a manner as possible. Its staff appreciated the need for that type of evaluation. Nevertheless, the management of any innovative project provides each staff person with a variety of new experiences, the recitation of which can add much to a total evaluation profile. Those perceptions are reported below by job classification.

Project Director

1. Project Communicate mandated the creation of a whole new division in an educational service organization with no previous experience in information systems work. The project manager literally started from scratch in the employment and training of supporting staff, and in the acquisition of essential hardware and software components. It

was an intense and highly personal learning experience in the absence of assistance from KSDE personnel with expertise in the development and utilization of information systems.

2. The original proposal, as written, was a totally unrealistic document in terms of its "process" and "product" goals. Most of the original goal statements could not be achieved in Kansas in twenty years let alone eighteen months. As a result, the initial conceptualization of project services had to be totally redirected if it was to become a "client-centered" change model.

3. Many advantages accrued by having the director functioning as a full-time employee. The willingness of KSDE leadership personnel to lend official status to that position made the management task that much simpler. Accountability for project goal attainment was owed to a ranking assistant commissioner, rather than to a section head in a research division.

4. Field agent responsibilities were so numerous in pilot region districts that their effectiveness with clients was undoubtedly compromised. Lower utilization index rankings, in some cases, were attributable to staff being spread too thin.

5. As an innovative effort, the project's range of services and its potential as a facilitator of classroom change had to be sold to prospective clients. The more innovative professionals "bought in" early with the skeptics coming along later. It should be noted that there is a definite hierarchy of information needs among teacher clients. Initially, curricular materials were in greatest demand, with long term program

redirections being requested at a later date. When clients became familiar with the technology of search and retrieval, they began to serve very adequately as change agents in their own districts.

6. It is essential in the development of a new information systems program that staff consider the temporary use of retrieval services from another agency. The plethora of other start-up concerns does not permit sufficient time to focus on your own computer operation. That development can come later when it is beneficial to have complete control over your own logic writing and searches.

Education Specialists -- Field Agents

1. Field Agent (Urban)

--Deal with district middle-management personnel with tact. The agent must be non-threatening and let his supporting relationship emerge naturally as middle-management personnel discover the value of available information services.

--Services to clients functioning at the building level should be "phased" so that intensive personal assistance can be initially provided in a number of attendance centers, with an eventual limiting of that service to an in-depth focus on client-groups in a reduced number of schools.

--There is a tendency to initially over-sell project services to the extent that clients order materials they never use. Educators are great collectors of new cognitive inputs, and are equally infamous for their limited utilization of same.

--In general, it would be appropriate to follow up on an initial search request before letting the client request another. This operational practice will discourage patterns of random ordering and limited utilization.

--The field agent's clerical chores, unless controlled, can effectively limit his facilitator role. Its the old "red tape" syndrome.

--I was generally impressed with the project's evaluation scheme. In the urban context, there was an obvious relationship between the findings of the objectively-determined and subjectively-determined data.

--I thoroughly enjoyed my change agent role.

2. Field Agent (Rural): Some random thoughts

-- Working as a generalist seems to be more effective than working as a specialist;

-- The field agent has limited time to search out materials and clients. The information center must support him in that effort;

-- The field agent is more effective working on a full-time basis;

-- Secretarial help is a must;

-- Daily logs must be kept of field agent activity;

-- The field agent should recommend outside consultants to clients for specialized implementation beyond his skills;

-- The field agent should be available approximately every two or three weeks to insure sustained client service;

-- Good in-house materials should be kept on hand for fast service when necessary;

--The field agent should approach clients in a non-threatening fashion and practice good human relations at all times;

--The field agent should be specific in writing up requests so that the logic writer may tap all possible sources relevant to requested information;

--The field agent should know what information is available in the client's immediate locale;

--The eight cent stamp is not a forceful change agent;

--Confidentiality concerning client requests can be important;

--Genuine respect for clients and what they are attempting to do is a basic requirement for the field agent;

--The field agent cannot be a "one-stop" information service: the client may be given leads toward finding information, but should recognize the need for personal resourcefulness;

--The field agent should screen all materials going to clients in order to be prepared for implementation activities;

--It's hard work, but it's fun.

3. Part-Time Field Agent: Some random thoughts

--The director served as a part-time field agent. He needed no special training for that role, although a less experienced individual might have.

--The press of other duties tended to minimize his agent role. This role often received the lower priority;

--There was a problem trying to follow through on many client requests. In many instances, delivering a print-out was the best

one could do in the short time allocated;

-- There was no problem getting entry at the building level. Clients were friendly and quite interested in almost all cases;

-- I would suggest the need for a low "ego-profile" for the field agent. Let the client take credit for any ideas and new learnings that accrue.

Information Writer

1. The anticipated role -- summarizing computerized information collected from each search -- proved unrealistic from the outset. What proved more feasible was in-house research and publication production emphasizing promising educational programs and practices in Kansas schools.
2. Two factors influenced the evolution of the information writer's role:
   a. Being developmental by nature, the project required decisions by the director which altered the writer's initial job description. Those duties also delayed the screening of copy as it developed.
   b. The first factor was somewhat influenced by the second; that is, the lack of writer's background in education necessitated more screening and close supervision during the first months of project activity.
3. Assisting the information specialist was a means of drawing the writer into the mainstream of project activity. Those tasks included:
   a. Assisting in manual searching of non-computerized resources;
   b. Screening computer searches which were developed into PACS (Pre-assembled Computer Searches). The writer's original role description -- i.e., researching and formal writing -- was actually outside the mainstream of project activity. It was a matter of some pride, therefore,

when the writer's publications were enthusiastically received by clients. Those publications included The Mini-Course: A Promising Technique, The Extended School Year, and Open Education.

4. The job became more functional as "start-up" problems were resolved. Work is now progressing on a fourth in-house publication, Independent Study. Computer abstracts, bibliographies from education journals, as well as other fugitive materials, are now accumulated. A proposed project newsletter is already off the drawing boards and will be ready for dissemination in the Fall of 1973. The meaningful integration of the information writer into project activity has been attained after a period of initial role ambiguity.

Information Specialist

1. An ERIC retrieval specialist benefits by some prior exposure to the field of education. While a formal education in the field may not be essential, familiarity with education terminology is helpful. Some knowledge of library skills is also beneficial in terms of the organization of materials and reference tools.
2. ERIC should be considered a major resource in the information center. However, since certain areas of weakness do exist within its literature base, additional resources should be added to supplement the ERIC file. Major newspapers (e.g., New York Times, etc.) may be an important asset since terms relating to national education programs may not appear in any other form.

3. Screening of abstracts is an essential function of the information specialist. It must be a thorough screening for it serves a three-fold purpose: (1) it determines if further work needs to be done on a given search before the abstracts are sent out to clients; (2) it permits the specialist to test his logic and to pick up ideas for improvement in logic writing; (3) it enables the specialist to identify areas of strength and weakness within the ERIC collection.
4. The center should retain as many in-house journals as budget limitations permit in order to provide a wider availability of articles with the fastest possible turn-around time. The journal articles are important to the dissemination center since they are extremely popular.
5. Computer access is a must for any effective ERIC center. Without the computer, the number of requests processed per month will be severely limited. Manual searching is simply too time consuming.
6. Vertical files or other methods of material organization should be established to control all fugitive non-ERIC material. Clearinghouse publications and newsletters should also be handled in this manner.
7. Open channels of communication should be maintained between the retrieval specialist and any existing field-agents or local linkers. If good working relationships and clear communication exist between these individuals, ambiguity relating to specific information requests can be clarified with better service for clients.
8. The information specialist, along with other staff, should do whatever is possible to encourage submission of materials to the ERIC data base.

The specialist in particular is in a position to know when a weakness exists in the ERIC file.

9. One major problem is the time factor and its impact on the quality of the project's work product. With limited staff and few resources, quantity takes precedence. Ideally, each client request should receive sufficient time to tap all available in-house and local resources related to the request. For each client to receive full consideration, the staff work load has to be manageable. If the information specialist is unrealistically overburdened, sacrifices will have to be made to quality.

VI. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Brief Summary of Project Goals and Activities

Kansas/Project Communicate is an information linkage project operating within the Kansas State Department of Education. Its purpose is to develop a client-centered information system in order to expand the linkages necessary for the adoption of innovative instructional practices in Kansas classrooms, as well as increase the general use of pertinent educational information in teacher and administrator decision making. The pilot region receiving information system services comprised twelve school districts clustered into four levels of information saturation. Clients in three additional units received either full or partial service. They were the Kansas City, KS, Public Schools, the Baldwin City, KS. Public Schools, and the Kansas State Department of Education. Project objectives spoke to the following "process" steps during its developmental phase (i.e., first eighteen months of activity).

Objective No. 1: To establish instructional linkages necessary to promote the adoption of innovative instructional practices. The project provided individualized information services, covering a wide range of subject areas, to both pilot region schools and SEA personnel. Dissemination of that information was governed by user-need profiles established by staff. After information was returned from the information processing center, the assigned field agent screened the material and assisted the client in its interpretation and utilization.

Objective No. 2: To direct the proposed information system to a pilot region within the state of Kansas so that it will (a) provide for the adoption of innovative instructional practices as specified in object one, (b) be generalizable to other regions in the state of Kansas, and (c) be generalizable to members of the Six Midwestern States Consortium. Project staff recommended pertinent information to client and client-groups in the pilot region, and scheduled follow-up meetings that would assist them in both obtaining desired basic documents and arranging for consultative and developmental assistance at the trial or adoption stage.

Objective No. 3: To effect a significant change in the identification of educational needs within pilot region schools. The project established one operational pilot region with a supporting field agent during the first twelve months of activity. A second field agent was added during the last six months of operation. The field agents solicited and entertained information requests

from administrators, teachers and other personnel involved in the management, planning and operation of schools and classrooms.

Objective No. 4: To influence attitudes among educators within the pilot region for more widespread adoption of new educational practices. The project established and maintained a centralized information processing unit in the state education agency (SEA). The processing unit routinely conducted individualized searches of ERIC and CIJE computer tapes for document numbers and abstracts for clients and field agents.

Conclusions

Objective No. 1: Evaluation data descriptive of the developmental phase of project activity suggest appreciable progress in the identification and training of local linkers who can promote the adoption of innovative instructional practices. The extent to which those positive new behaviors have been displayed is governed, in many instances, by the level of field agent support made available to interested client and client-groups. The findings (developmental evaluation -- pages 26 - 32) show the continuing task to be a matter of getting clients to utilize acquired information in as complete a manner as possible. In general, field agent intervention has proved to be the critical variable in that regard as shown by the total profile of developmental evaluation data. Without the agent's sustained support, client and client-groups usually did not go as far as they might have with acquired information resources.

Objective No. 2: The findings suggest that project services to pilot region schools were, in general, positively evaluated by users at all four levels of information saturation. Client rankings of the quality of information materials received has been extremely encouraging to project staff. That feeling is reinforced by the volume of output at the project's processing center (Table 8). There has been a sustained demand for the project's search and retrieval services, as well as direct requests for additional support from field agent personnel. The attraction of users has never been a problem for Kansas/Project Communicate. More important than quantity, however, is the quality of the services provided. The central learning for director and staff after eighteen months of development activity is the need to maintain a close follow-up relationship with clients. The latter's acquisition of the skills necessary to obtain information is a key first step. More important over the long term, however, is insuring that retrieved material will be utilized as a resource in support of necessary classroom and institutional change. The staff saw numerous gains in that regard, but appreciates the need to focus its future activities on school personnel offering the greatest potential as local information linkers.

Objective No. 3: Field agent performance was very satisfactory when analyzed in terms of any available objective or subjective measure. If director and staff could identify some misgiving of general concern, it would undoubtedly be the variable of time. Monitoring client activities proved especially difficult in terms of the sheer volume of individual searches requested. Staff

appreciated the need to support clients as they used retrieved information. In many instances, however, the time required for a meaningful dialogue with individual users was never available in sufficient amounts. Those districts with the highest levels of information saturation, including field agent support, generally attained more acceptable levels of information utilization. But even in those cases, field agents and supporting information center staff were generally hard pressed to meet even basic information needs.

Objective No. 4: The search and retrieval capacity of the processing unit reached satisfactory levels of performance after an extended period of trial and error. The developmental phase saw the eventual acquisition components that now make the processing unit a totally functional entity. At the present time, the project can justify a claim of reasonable self-sufficiency in terms of both staff competency and adequate hardware and software resources. Attaining that operational level has not been a simple task as this interim report suggests. A lingering concern will be the retention of staff who can process client requests with minimal turn-around time.

Recommendations of Project Director and Staff

1. The initial proposal presentation should only be viewed as a statement of intentions and must avoid an elaboration of "process" procedures which are not an operational fit for the geographic region to be served. This imploration reflects the circumstances of a director and staff who were not part of the original proposal development team. Many of the plans and

expectations detailed in that document proved impossible to implement in any form.

2. The director of a state-wide information systems linkage project will be more productive functioning in a full-time capacity. That employment configuration is extremely critical in a state-wide developmental effort. A half-time employee would have difficulty monitoring the full range of start-up activities critical to primary goal attainment.
3. The role of the field agent is critical to the success of any information systems linkage program. Most client and client-groups can be expected to lack the skills and understandings essential to information acquisition. Obstacles encountered by clients should be quickly corrected through sustained field-agent contact. The experience of Kansas/Project Communicate suggests the strong likelihood of an unreasonable work load developing for field agent personnel. That is, the number of clients can grow to a point that the agent cannot efficiently monitor the effective utilization of retrieved information.
4. The project evaluation scheme must monitor both the developmental and operational phases of information system activity. Innovative programs are in no position to displace primary goals. That is, any evaluation design should make the critical distinction between project "efficiency" and "effectiveness". The primary goal activity of Kansas/Project Communicate was the development of a "client-centered information system whose full development would support the utilization of pertinent

information by educational practitioners and decision makers. That goal served as a "true" measure of project effectiveness. Additionally, the efficiency of project operations (i.e., means activities) can be regularly evaluated, in quantitive terms, via monthly or quarterly management reports. The principal project concern, however, is insuring that its developmental goals (i.e., ends activities) are never side-tracked by short-term operational successes.

APPENDICES

APPENDIX A

PROJECT COMMUNICATE

INFORMATION REQUEST AND

CLIENT EVALUATION FORM

PROJECT COMMUNICATE

Request Form

Name [redacted] (7–26) Date 4/19/72

School Bonner Sorings High School District 204 (29–31)

Address Bonner Springs, Kansas
street city zip

Check all terms that apply: (27) Phone 422-5121

(X) teacher ( ) board member ( ) patron ( ) paraprofessional

( ) administrator ( ) KSDE staff ( ) student ( ) non-certified

( ) counselor ( ) other

Describe the topic about which you are seeking information:

She is the art coordinator for the entire Bonner district. She would like information at the levels K through 6 in information pertaining to elementary art. She would like to know of any programs that have been tried. She would like bibliographies of teaching methods or materials. She has had difficulty with the elementary teachers in this system in getting them to try new things in art, that is, something other than 36 George Washington's, all the same, all drawn and colored on the same day.

Reason for request:

She would like this information for elementary planning and hopefully for implementation at the elementary level.

Follow–up comments

5-9-72 (D) "Art Education"
6-2-72 (D) "Art Ed.-Elem (mailed)
6-8-72 (MFO) order in
8-29-72 (MFd) Mf + EJ delivered 1-10-73 follow-up.

Knowler has used the material extensively with elementary Teachers.

Many art programs have been changed,

BEST COPY AVAILABLE

5-17-73 Evaluation in

Field Consultant Angell

65

128-H

(28) ✓
(32) 4
(35) 2
(36) 5
(78) 40 (33–

57 [illegible]

date received 4/24/72
date requested 4/25/72
date filled 5/5/72

Descriptors: (38–77)

Art Education
Art Activities
Instructional Materials
Elementary Grades

Sources:

Computer
PACS

Form 50-06-100-1M

BEST COPY AVAILABLE

720228 Title ART EDUCATION

Name [redacted]

School BONNER SPRINGS HI.

How well did the material fulfill your request for information?

___ excellent
X very good
___ good
___ fair
___ poor

comments -

How will this information be utilized?

X classroom units
X curricular revision
___ administrative decision making
___ professional growth
___ other

comments -

How many other people have used this information?

1

When do you plan to use the information obtained from this search?

X have already used the information
___ in the near future
___ in 3 months
___ months
___ do not plan to use

comments -

5 ORDER
- COMPLEXITY
4 LAIN
4 SYSTEM
40 TOTAL

Planning, Research and Evaluation
Kansas State Department of Education
120 East Tenth Street
Topeka, Kansas 66612

Form 05-02-100